

Making retail competition work in electricity

Presentation to the Illinois Commerce Commission

Prepared by:

London Economics International LLC

A.J. Goulding

ajg@londoneconomics.com

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Chicago, Illinois

LEI has worked worldwide on power market design

Connecticut Department of Public Utility Control (DPUC)



- Evaluating measures to reduce Federally Mandated Congestion Charges (FMCC) in Connecticut
- Performing an economic evaluation of the New England and Connecticut energy markets using our proprietary production cost model, POOLMod
- Designing and drafting the RFP process, RFP documentation, and contract template using an innovative approach that will incorporate a hybrid physical and financial contract
- Managing the procurement process, and will evaluate project bids in comparison to anticipated market outcomes

Electricity & Cogeneration Regulatory Authority of Saudi Arabia (ECRA)



- Supporting the new Saudi regulator in setting up an unbundled electricity tariff for generation, transmission and distribution
- Assessing costs of generation, transmission, and distribution, developing appropriate tariff setting methodologies, analyzing possible incentive mechanisms
- Drafting and creating regulatory tools, helping to create the tariff review unit
- Proposing a regulatory framework for market deregulation

A.J. Goulding

- President of LEI
- Professor in electricity markets at Columbia University
- Proud Chicago resident and Illinois taxpayer
- Worked for regulators and private clients in the US, Canada, Eastern Europe, Asia, and the Middle East

London Economics Int'l (LEI)

- US owned and operated
- Retail market experience includes Texas, Alberta, California, Connecticut and Ontario
- Performed auction oversight, customer bill impact analysis, and implementation review
- Significant work on market power issues, including FERC testimony

Getting retail competition right requires exposing consumers to price volatility

- We do not have regulatory hedges for mortgages, heating oil, gasoline, or food. Why do we need them for electricity?
- Customer bill volatility is often due to weather related consumption as much as it is price related
- Customers will not switch if default options provide a subsidized hedge

Key components of good retail design

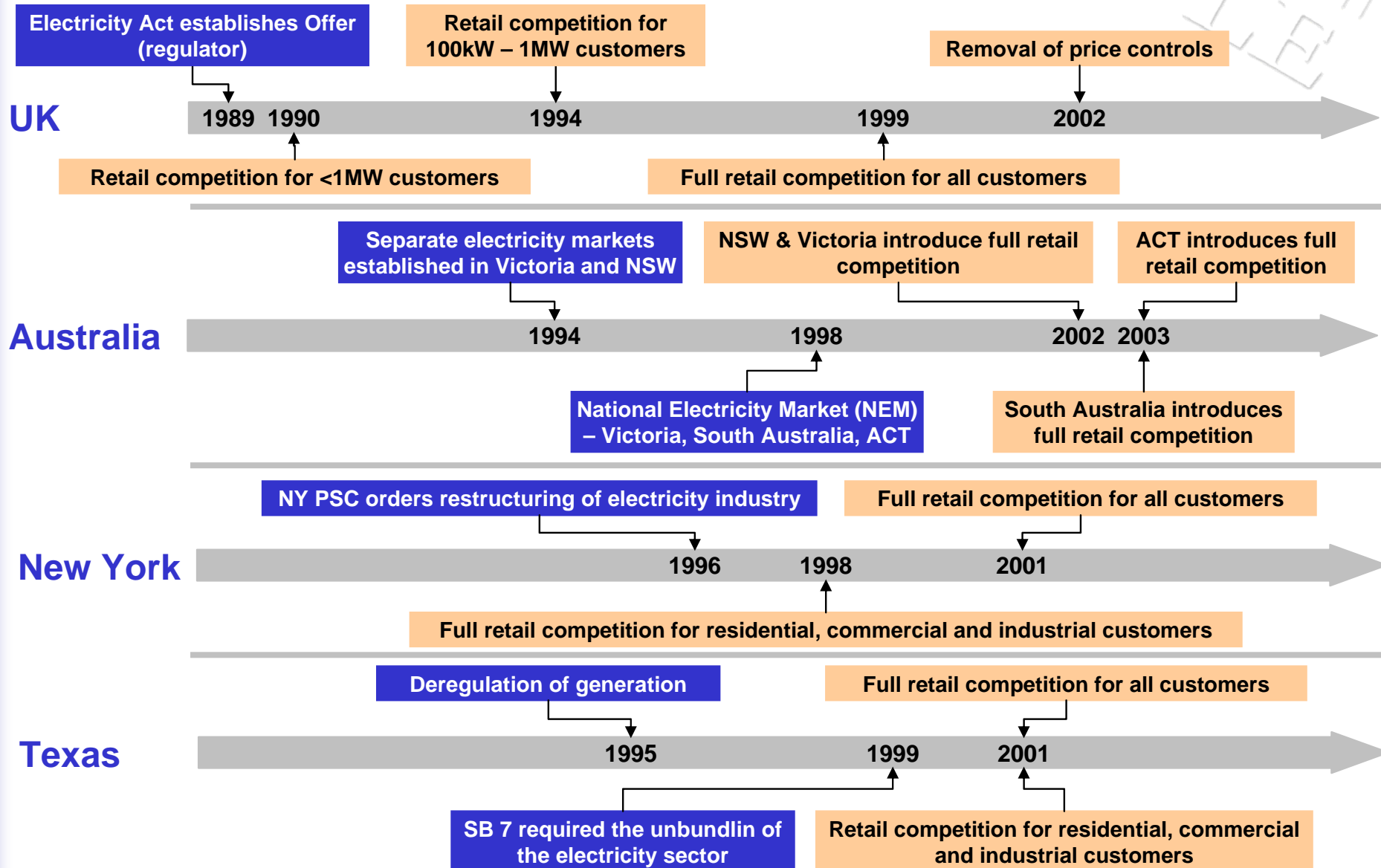
- ***Spot price pass-through*** is default alternative
- Give retailers the option of ***using utility billing infrastructure***
- Centralized information ***clearing house***
- Restrictions on ***affiliate abuse***
- Uniform treatment of ***bad debt***
- Encourage ***real time meters***

Levels of switching worldwide correlate with extent of free hedging available in default design

<i>as of 2005</i>	# of retailers	# of active retailers	Switching rate (residential)	Market share of top 3 retailers
ALBERTA	20	2	8%	92%
NEW YORK	29	20	6%	54%
NEW ZEALAND	14	14	22%	58%
NORWAY	150	30	25%	40%
ONTARIO	40	5	24%	n/a
PENNSYLVANIA	48	2	6%	61%
TEXAS	19	19	18%	51%
UK	90	30	40%	62%

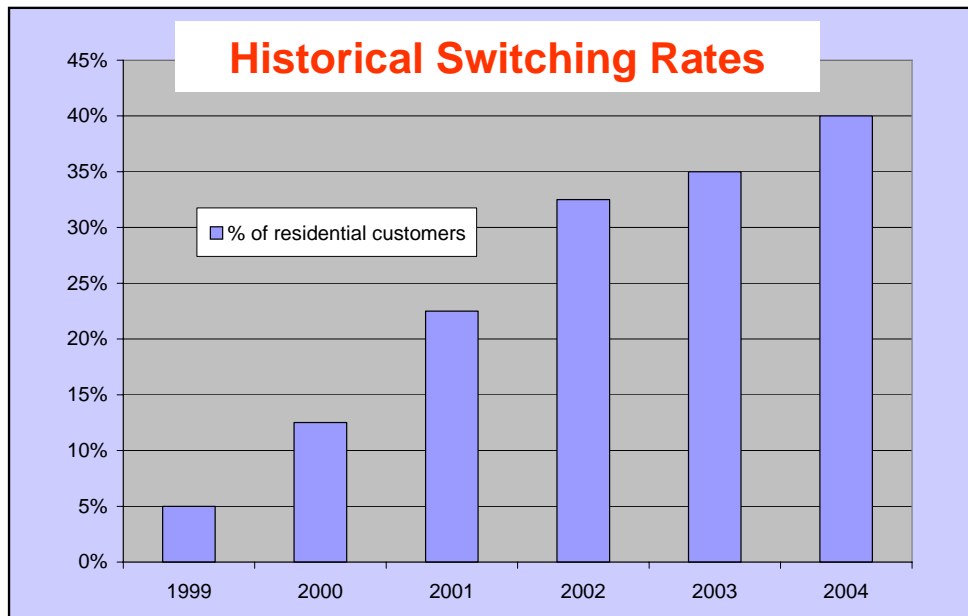
Source: Alberta Department of Energy 2005 Study

Retail markets worldwide have evolved at a varied pace



Retail market in the United Kingdom is considered mature

- Retailers bill directly to customers
- Retailers offer “green” products – including some made up of 100% renewable energy
- Over the last two years about 350,000 customers have switched each month



Key Market Statistics (2005)

- Peak demand: **81,738 MW**
- ICAP: **61,697 MW**
- Reserve margin: **32%**
- Consumption: **345,243 GWh**
- Population (UK): **60,441,457**

2005 OFGEM survey

- most customers (**85%**) are **satisfied** with their electricity supplier
- over a third (36%) say they are very satisfied and half (**49%**) are **satisfied**
- a small proportion (**5%**) are **not satisfied** with their supplier

Extent of retail competition in Australia is less advanced

- In Victoria, the Government entered into 4-yr contract which provides fixed priced power for small consumers
- In NSW, centrally regulated default rates were extended through 2010, while small customers in Queensland remain on regulated rates
- Retail competition in Tasmania has just begun for very large customers (>20 GWh/year) – small customers eligible in 2010
- Customers in states with retail competition receive bill from retailers

Key Market Statistics (2005)

- Peak demand: 34,425 MW
- ICAP: 40,127 MW
- Reserve margin: 17%
- Consumption: 176,144 GWh
- Population (AUS): 20,600,000

Statistics for the National Electricity Market

New York retail competition arrangements vary by service territory

Switching Rate (2005)

	Large Non-residential		Small Non-residential		Residential	
	% of customers	% of load	% of customers	% of load	% of customers	% of load
Central Hudson	47%	83%	4%	22%	1%	1%
Con Ed	81%	89%	18%	46%	7%	8%
NYSEG	49%	72%	22%	48%	7%	9%
National Grid	70%	67%	23%	56%	7%	8%
O&R	22%	41%	33%	49%	30%	37%
RG&E	68%	73%	41%	62%	19%	25%

Key Market Statistics (2005)

- Peak demand: **31,962 MW**
- ICAP: **38,768 MW**
- Reserve margin: **19.4%**
- Consumption: **160,216 GWh**
- Population (NY): **18,976,000**

- Default option is spot price pass through
- Retail innovations include online account management, flexible billing
- Customers have 3 billing options:
 - two bills: one from the retailer for electricity supply and other products and one from the utility for transmission and delivery charges
 - retailer consolidated billing
 - distributor consolidated billing
- Orange & Rockland's Switch and Save Program:
 - offers 7% discount on commodity for two months (provided by retailers)
 - aims to minimize switching complexity, acquisition costs for retailers
 - originally customers were assigned to retailers by O&R on a random daily basis, after 2004 allowed to choose.

Texas retail markets work because default prices regularly adjust to reflect fuel costs

- After 3-year freeze, rates were lowered, creating "Price to Beat"
 - Affiliate retailer cannot charge more until it loses 40% of its customers or five years pass, whichever comes first
 - Prices adjusted twice annually upon commission approval, using 20-day average of forward 12-month NYMEX natural gas (5% materiality factor)
- Retail innovation include online billing, flexible payment options, renewable energy plans
- ERCOT has completed nearly 15 million transactions related to choosing retail provider (switches, move-ins, & move-outs). In 2004:
 - Switching averaged 38,000 per month
 - Move-ins averaged 9,000 per day
- PUC February 2006 report highlighted benefits: lower prices, efficient mechanisms for promotion of renewable energy, replacing old plants with new, efficient ones

Key Market Statistics (2005)

- Peak demand: 69,380 MW
- ICAP: 59,325 MW
- Reserve margin: 16.9%
- Consumption: 290,000 GWh
- Population (Texas): 20,851,000

Switching Rate (2005)

	% customers	% of load
Residential	26%	33%
Small Non-Residential	30%	78%
Large Non-Residential	73%	74%

Good retail market design provides long term benefits to consumers

- Spot prices passthrough provides appropriate signals for conservation
- Customers, not regulators, chose whether and how to hedge
- Customers can express own preferences for amount of renewables, rather than being subject to one size fits all RPS
- Competitive retailers have generally been more creative in providing innovative payment options, bundling of services, and customer service
- By increasing demand for contracts by retailers to cover load, need for capacity markets is reduced

Price spikes in Maryland, New England, and elsewhere were the result of poor default supply design, not competition.

Does customer inertia justify state intervention?

■ Several reasons for inertia:

- Electricity is a small proportion of disposable income, and potential savings are even smaller
- Confusion between retail and wires businesses
- Switching process is complicated / time consuming

■ Retail clearinghouse could reduce barriers

■ Research in other industries suggests variants of spot passthrough (ARMs, for example) can save customer money

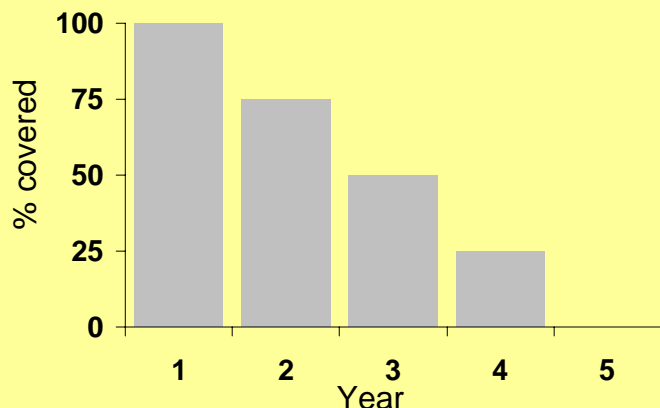
■ Some regulatory attention may be necessary if only small number of retailers (less than 3) enter market; Illinois is large market and capable of supporting multiple retailers

What would central retailer clearinghouse look like?

- List of all licensed retailers
- Links to their offers
- Bill calculator
- Facilitate online switching
- Authorize customer information disclosure
- Allow for “apples to apples” comparison
- Promoted in distribution company mailings
- Retailers encouraged to participate but may opt out

Coordinated auctions only justified as transitional mechanism

Hypothetical transition contracts



Illinois auctions

- First auction completed on Sept. 8
- The range of opening prices was for Fixed Price Section, \$75/MWh to \$104/MWh; for Hourly Price Section, \$231/MW-day to \$315/MW-day
- Final auction prices form the basis of new retail rates applied to electricity usage beginning Jan. 2, 2007 (new rates represent first rate increase since before 1997)
- Contracts awarded for 17, 29, and 41-month terms

- Price freezes have artificially suppressed generation costs to small customers in many jurisdictions
- Frequent default supply auctions unnecessary in regions with active, transparent spot markets
- However, default supply auctions can be used to transition to spot price passthrough
 - Contract cover reduced 25% per year, removed after four years
 - Substantial customer education in the meantime
 - Vesting contracts in UK served similar purpose
- Over long term, call options to cap spot price pass-through possible
 - Still distortionary
 - Auction for option to buy power at high strike price (\$250/MWh, for example)
 - Cost of premium passed through to default customers

Encouraging real time meters one area regulators can make genuine difference

- Real time metering for all customers promotes peak shaving, reduces need for peaking plant
- Can increase accuracy of meter reads and reduce monitoring costs
- Per unit meter costs falling, and coordinated plan can provide economies of scale
- Utilities need means to recover cost of scrapped meters
- Metering linked to retailing because real time price signals increase demand for hedging and for innovative products

ENEL (Italy) 2002-present

- 30 million AMI (Advanced Metering infrastructure) meters
- All customers (>90% residential)
- Estimated cost is €2.2 billion (ENEL developed its own AMI meters)
- ENEL installed 23 million PLC Smart Meters since 2003 at a rate of 40,000 a day (source: EDF Energy)
- Key functions include remote meter reading, pricing and demand response, remote connect/disconnect, etc

Pennsylvania Power and Light (US), 2002-2004

- 1.3 million AMI meters (100% of PP&L PA customers)
- Total capital cost was \$160 million (\$123 per meter)
- Key functions include remote meter reading, remote collection of move-in/move-out meter reads, etc

Concluding remarks



- **Customers are capable of making complex consumption decisions**
- **There is little justification for regulatory intervention to provide fixed price default supply**
- **Gasoline prices fluctuate dramatically, and consumers adjust their behavior; electricity should be no different**
- **If customers do not care enough to switch, should the government protect them?**
- **Vibrant, independent retail sector, coupled with retail information clearinghouse, is key part of robust electricity sector**